2011 MRS SPRING MEETING
April 25-29 · San Francisco, CA

CALL FOR PAPERS

Abstract Deadline: November 2, 2010

REMINDER:
In fairness to all potential authors,
late abstracts will not be accepted.

www.mrs.org/spring2011

MRS Symposium J: Protons in Solids

The proton is a very important, yet elusive, ionic charge carrier in electrochemistry and virtually also a hydrogen carrier in proton pumps and hydrogen separation membranes, for example. Protons are intermediates in water splitting; they are small and can intercalate materials. This symposium features the logistics of protons with respect to their importance to energy materials in experiment and computational modeling: proton conductivity, hydrogen storage, water splitting, and fuel cells. In addition to applications and devices, the symposium will include the important and frequently underestimated basic science of the proton hosted in solids; the transition from hydrogen bonding to proton-phonon coupling; and its benign or malign impact on functionality, stability, and integrity of materials.

Topics of interest include:

- Protons in environment with reduced dimensions
- Ceramic proton conductors
- Polymer membranes
- The proton in hydrogen storage environment
- Probing and detecting protons
- Water splitting and photosynthesis
- Electronic structure of proton conductors
- Structural protons vs. hydrogen-bonded protons
- Protons, positrons, and polarons
- Hydrogen separation membranes
- Proton-conducting fuel-cell systems and proton batteries

A joint session with Symposium K: *Frontiers of Solid-State Ionics* is being considered.

Invited speakers include:

Balu Balachandran (Argonne National Lab), **Deborah Jones** (Univ. Montpellier II, France), **Sandrine Lyonnard** (French Atomic Energy Commission), **Janina Molenda** (AGH Univ. of Science and Technology, Poland), **Truls Norby** (Univ. of Oslo, Norway), **Ryan O'Hayre** (Colorado School of Mines), **Stephen Paddison** (Univ. of Tennessee Knoxville), **Vanessa Peterson** (Australian Nuclear Science and Technology Org., Australia), **Noriko Sata** (Tohoku Univ., Japan), **V. Hugo Schmidt** (Montana State Univ.), and **Massimo Viviani** (National Research Council, Italy).

Symposium Organizers

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